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CONTRIBUTIONS TOWARD A KNOWLEDGE OF THE
INSECT FAUNA OF LOWER CALIFORNIA

No. 8

LEPIDOPTERA: RHOPALOCERA

BY

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VERY LITTLE has been published about the butterflies of Lower California, and most of that deals with descriptions of new species. In 1889 Skinner described *Myscelia streckeri* from "Lower California"; Weeks described *Apodemia (Lemonias) maxima*, *Strymon (Hypolycaena) festata*, and *Pyrgus pelagica* [a synonym of *Chiomara asychis* (Cramer)] in 1891 from specimens "taken near San José del Cabo." Thirty-nine years later Klots published the description of *Ascia monuste raza* from specimens taken by expeditions of the California Academy of Sciences from 1921 to 1925. Van Duzee mentioned one nymphalid from San Martin Island in 1932; in 1941 Cockerell named two species as occurring at Ensenada.

The rhopalocerous fauna of Lower California shows a marked similarity to that of southwestern United States, all but nine of the eighty-six species listed below having been recorded from both regions. Only one species of butterfly (*Myscelia streckeri* Skinner) seems to be restricted in its range to Lower California. There is also a resemblance to the butterfly population on the mainland of Mexico across the Gulf of California, especially that of the coast of the state of Sonora, as present records indicate that four out of every ten species found on the entire peninsula occur in this mainland region.

The present fragmentary records of butterflies taken from this territory indicate that three faunal regions are distinguishable within Lower Califor-

nia : (1) The most distinct and clear-cut section is the coastal area of Ensenada and vicinity, including Cedros Island; the species here are similar to those found in southern California. (2) The tip of the peninsula and the coastal area along the Gulf of California to the vicinity of Concepcion Bay has by far the largest number of species. Here is found a mixture of semitropical forms, occurring in southern and southwestern United States and northern Mexico, plus a scattering of Neotropical types, the former constituting by far the majority of species. (3) The remaining territory has almost entirely southern and southwestern forms, although a few species from the Cape San Lucas region extend to the north. The records indicate that this area has relatively few butterflies, both in number and kind. The northern mountain ranges may not fall into any of the above divisions but, owing to the lack of collecting records from this area, it is at present impossible to classify this tract.

As a result of past expeditions, the California Academy of Sciences has built up an excellent collection of butterflies from Lower California; the author, thanks to the aid of his family, also has a good-sized collection from the peninsula and neighboring mainland. It is chiefly from these two sources that the material for this paper has been compiled; records previously published are shown by identical numbers appended to the bibliographical references and their corresponding localities. The writer wishes to acknowledge with thanks the privilege of using some unpublished field notes of Mr. Christopher Henne of Pasadena who has collected in the northwestern coastal area of Lower California.

This paper includes Lower California records for eighty-six species and subspecies of butterflies, arranged according to McDunnough's "Check List of the Lepidoptera of Canada and the United States of America" (1938). The author and family have collected in the state of Sonora along the Gulf of California between Guaymas and Tiburon Island, stopping at San Pedro Bay and San Carlos Bay, in addition to the two above-mentioned localities. Species that were found on the peninsula, as well as in this mainland area, are so noted in the paper; these latter records are those of the author unless otherwise specified.

PAPILIONIDAE

(1) **Papilio philenor** Linnaeus

Papilio philenor LINNAEUS, 1771, Mant. Plantar., p. 535; GODMAN and SALVIN, 1890, Biol. Centr.-Amer., Rhop., 2:204; SEITZ, 1907, Macrolep., 5:20; COMSTOCK, 1927, Butterflies Calif., p. 17; HOLLAND, 1931, Butterfly Book, rev. ed., p. 312.

Papilio astinus DRURY, 1773, Illus. Exot. Ent., 1:11.

Localities: Cape San Lucas, March 4, 1928, March 20, 1939, November 13, 1939, December 24, 1938; Los Frailes Bay, December 28, 1938.

This species was also found along the Gulf coast of Sonora, as well as in the inland portion of that state.

(2) **Papilio asterius** Cramer

Papilio asterius CRAMER, 1782, Pap. Exot., 4:194; GODMAN and SALVIN, 1890, Biol. Centr.-Amer., Rhop., 2:242; SEITZ, 1907, Macrolep., 5:23; HOLLAND, 1931, Butterfly Book, rev. ed., p. 314.

Localities: Big Canyon, Sierra Laguna, October 13, 1941; La Laguna, Sierra Laguna, October 14, 1941.

(3) **Papilio cresphontes** Cramer

Papilio cresphontes CRAMER, 1777, Pap. Exot., 2:106-107; GODMAN and SALVIN, 1890, Biol. Centr.-Amer. Rhop., 2:223; SEITZ, 1907, Macrolep., 5:24; HOLLAND, 1931, Butterfly Book, rev. ed., p. 317.

Papilio oxilus HÜBNER, 1818, Verz. bekannt. Schmett., 83, 850.

Localities: Cape San Lucas, March 3, 1928, November 13, 1939; Santiago, July 8, 1938.

PIERIDAE

(4) **Anthocharis cethura deserti** Wright

Anthocharis deserti WRIGHT, 1905, Butterflies West Coast, p. 106.

Anthocharis cethura deserti, SEITZ, 1924, Macrolep., 5:1024; COMSTOCK, 1927, Butterflies Calif., p. 42.

Euchloe cethura deserti, HOLLAND, 1931, Butterfly Book, rev. ed., p. 286.

Locality: Cedros Island, March 18, 1939.

(5) **Anthocharis sara reakirti** Edwards

Anthocharis sara reakirti EDWARDS, 1869, Tr. Am. Ent. Soc., 2:368; SEITZ, 1910, Macrolep., 5:95; COMSTOCK, 1927, Butterflies Calif., p. 43.

Euchloe sara reakirti, HOLLAND, 1931, Butterfly Book, rev. ed., p. 286.

Locality: Cedros Island, March 18, 1939.

(6) **Zerene caesonia** (Stoll)

Papilio caesonia STOLL, 1790, Suppl. Cram., p. 176.

Colias cesonia, GODMAN and SALVIN, 1889, Biol. Centr.-Amer., Rhop., 2:153.

Meganostoma cesonia, SEITZ, 1910, Macrolep., 5:94.

Zerene caesonia, COMSTOCK, 1927, Butterflies Calif., p. 48; HOLLAND, 1931, Butterfly Book, rev. ed., p. 292.

Localities: San Geronimo Island, July 13, 1905; 30 miles south El Arco, June 24, 1938; Asuncion Bay, November 11, 1939; Santa Maria Bay, February 23, 1928, November 12, 1939; Cape San Lucas, November 13, 1939, December 24, 1938; Los Frailes Bay, December 28, 1938; Muertos Bay, November 16, 1939; Isla Partita Cove, Espíritu Santo Island, March 7, 1928; Pulpito Bay, January 2, 1939.

This butterfly was also found in Sonora along the Gulf of California.

(7) **Anteos clorinde** (Godart)

Colias clorinde GODART, 1823, Enc. Meth., **IX**, Sup., p. 813.

Anteos clorinde, GODMAN and SALVIN, 1889, Biol. Centr.-Amer., Rhop., 2:148.

Gonepteryx clorinde, SEITZ, 1910, Macrolep., 5:89; HOLLAND, 1931, Butterfly Book, rev. ed., p. 290.

Amynthia swainsonia SWAINSON, 1832, Zool. Illustr., 2:65.

Colias godarti PERTY, 1834, Del. Animal, p. 152.

Locality: Cape San Lucas, November 14, 1939.

(8) **Anteos maerula** (Fabricius)

Papilio maerula FABRICIUS, 1775, Syst. Ent., p. 479.

Anteos maerula, GODMAN and SALVIN, 1889, Biol. Centr.-Amer., Rhop., 2:149.

Gonepteryx maerula, SEITZ, 1910, Macrolep., 5:89.

Papilio ecclipsis CRAMER, 1777, Pap. Exot., 2:47.

Locality: Cape San Lucas, March 13, 1928, November 14, 1939, December 24, 1938.

(9) **Phoebis eubule** (Linnaeus)

Papilio eubule LINNAEUS, 1767, Syst. Nat., 1:764.

Callidryas eubule, GODMAN and SALVIN, 1889, Biol. Centr.-Amer., Rhop., 2:141; HOLLAND, 1931, Butterfly Book, rev. ed., p. 289.

Catopsilia eubule, SEITZ, 1910, Macrolep., 5:85.

Localities: Asuncion Bay, November 11, 1939; Cape San Lucas, November 14, 1939, December 24, 1938; Los Frailes Bay, December 28, 1938; Five miles west San Bartolo, July 13, 1938; Ballina Bay, Espíritu Santo Island, December 30, 1928; North end San José Island, December 31, 1938; Puerto Escondido, January 1, 1939; Pulpito Bay, January 2, 1939.

This species has been taken along the Gulf coast of the state of Sonora.

(10) **Phoebis agarithe** (Boisduval)

Colias agarithe BOISDUVAL, 1836, Spec. Gen. Lep., 1:623.

Phoebis agarithe, GODMAN and SALVIN, 1889, Biol. Centr.-Amer., Rhop., 2:145.

Catopsilia agarithe, SEITZ, 1910, Macrolep., 5:87.

Callidryas agarithe, HOLLAND, 1931, Butterfly Book, rev. ed., p. 289.

Localities: Cape San Lucas, March 3, 19, 1928, March 20, 1939, November 13, 1939, December 24, 1938; Los Frailes Bay, December 28, 1938; Espíritu Santo Island, March 7, 1928, December 30, 1938 (Ballina Bay); Pulpito Bay, January 2, 1939.

(11) **Eurema jacunda** (Boisduval and LeConte)

Xanthidia jacunda BOISDUVAL and LECONTE, 1833, Lep. Amer. Sept., p. 52.

Terias jacunda, GODMAN and SALVIN, 1889, Biol. Centr.-Amer., Rhop., 2:168; SEITZ, 1910, Macrolep., 5:83.

Eurema jacunda, KLOTS, 1928, Ent. Amer., 9:124; HOLLAND, 1931, Butterfly Book, rev. ed., p. 303.

Localities: Cape San Lucas, November 14, 1939, December 24, 1938; Los Frailes Bay, December 28, 1938.

(12) **Eurema daira** (Godart)

Pieris daira GODART, 1819, Enc. Meth., 9:137.

Eurema daira, KLOTS, 1928, Ent. Amer., 9:126.

Papilio delia CRAMER, 1782, Pap. Exot., 3:273.

Terias delia, SEITZ, 1910, Macrolep., 5:83.

Eurema delia, HOLLAND, 1931, Butterfly Book, rev. ed., p. 303.

Eurema demoditas HÜBNER, "1816" (1820), Verz. Bekannt. Schmett., 96, No. 1016.

Terias cepio GODMAN and SALVIN, 1889, Biol. Centr.-Amer., Rhop., 2:169.

Localities: Cape San Lucas, March 4, 1928, November 13, 1939, December 24, 1938; Los Frailes Bay, December 28, 1928; Puerto Escondido, March 8, 1928.

(13) **Eurema nicippe** (Cramer)

Papilio nicippe CRAMER, 1782, Pap. Exot., 3:20.

Terias nicippe, GODMAN and SALVIN, 1889, Biol. Centr.-Amer., Rhop., 2:155; SEITZ, 1910, Macrolep., 5:81.

Eurema nicippe, COMSTOCK, 1927, Butterflies Calif., p. 56; KLOTS, 1928, Ent. Amer., 9:132; HOLLAND, 1931, Butterfly Book, rev. ed., p. 301.

Localities: North end San José Island, December 31, 1938; Puerto Escondido, January 1, 1939; Pulpito Bay, January 2, 1939; San Francisquito Bay, May 10, 1921.

This species was fairly common along the Gulf coast of Sonora.

(14) **Eurema boisduvaliana** (Felder)

Terias boisduvaliana FELDER, 1865, Reise Nov. Lep., 2:200; GODMAN and SALVIN, 1889, Biol. Centr.-Amer., Rhop., 2:159.

Eurema boisduvaliana, KLOTS, 1928, Ent. Amer., 9:133.

Terias ingrata FELDER, 1869, Verh. zool.-bot. Ges. Wien, 465.

Terias mexicana (Boisduval), SEITZ, 1910, Macrolep., 5:81.

Localities: Cape San Lucas, March 20, 1939, November 14, 1939; El Tule Ranch, March 5, 1928.

(15) **Eurema mexicana** (Boisduval)

Terias mexicana BOISDUVAL, 1836, Spec. Gen. Lep., 1:655; GODMAN and SALVIN, 1889, Biol. Centr.-Amer., Rhop., 2:157; SEITZ, 1910, Macrolep., 5:81.

Eurema mexicana, KLOTS, 1928, Ent. Amer., 9:134; HOLLAND, 1931, Butterfly Book, rev. ed., p. 301.

Terias damaris FELDER, 1865, Reise Nov. Lep., 1:198.

Terias depuiseti BOISDUVAL, 1870, Lep. Guat., p. 11.

Localities: Cape San Lucas, March 3, 1928, March 20, 1939, November 13, 1939, December 24, 1938; El Tule Ranch, March 5, 1928; Ballina Bay, Espíritu Santo Island, December 30, 1938; North end San José Island, December 31, 1938; Puerto Escondido, March 8, 1928.

Also found along the Gulf of California in the state of Sonora.

(16) **Eurema gundlachia** (Poey)

Terias gundlachia POEY, 1851, Hist. Nat. Cuba, p. 246; GODMAN and SALVIN, 1889, Biol. Centr.-Amer., Rhop., 2:156; SEITZ, 1910, Macrolep., 5:81.

Eurema gundlachia, KLOTS, 1928, Ent. Amer., 9:137; HOLLAND, 1931, Butterfly Book, rev. ed., p. 300.

Localities: Cape San Lucas, November 13, 1939; El Tule Ranch, March 5, 1928; Miraflores, July 10, 1938.

(17) **Eurema lisa euterpe** (Ménétriés)

Colias euterpe MÉNÉTRIÉS, 1832, Bull. Mosc., p. 299.

Terias euterpe, GODMAN and SALVIN, 1889, Biol. Centr.-Amer., Rhop., 2:162.

Terias lisa euterpe, SEITZ, 1910, Macrolep., 5:83.

Eurema lisa euterpe, KLOTS, 1928, Ent. Amer., 9:138.

Locality : Cape San Lucas, March 21, 1939.

(18) **Eurema nise perimede** (Prittewitz)

Terias perimede PRITTWITZ, 1865, Stett. Ent. Zeitung, p. 134.

Eurema nise perimede, KLOTS, 1928, Ent. Amer., 9:140.

Terias linda EDWARDS, 1884, Pap., 4:53.

Terias thymetus Fabricius, SEITZ, 1910, Macrolep., 5:82.

Localities : Cape San Lucas, March 3, 1928, March 21, 1939, November 14, 1939, December 24, 1938; Los Frailes Bay, December 28, 1938; Miraflores, July 10, 1938; Muertos Bay, December 29, 1938; La Paz, March 15, 1928; Ballina Bay, Espíritu Santo Island, December 30, 1938; North end San José Island, December 31, 1938; Puerto Escondido, March 8, 1928; Pulpito Bay, January 2, 1939; San Marte Bay, December 20, 1938.

(19) **Nathalis iole** Boisduval

Nathalis iole BOISDUVAL, 1836, Spec. Gen. Lep., 1:589; GODMAN and SALVIN, 1889, Biol. Centr.-Amer., Rhop., 2:172; SEITZ, 1910, Macrolep., 5:95; COMSTOCK, 1927, Butterflies Calif., p. 36; HOLLAND, 1931, Butterfly Book, rev. ed., p. 283.

Nathalis felicia POEY, 1853, Hist. Nat. Cuba, p. 443.

Nathalis irene FITCH, 1856, Trans. New York State Agric. Soc., p. 485.

Nathalis luteolus REAKIRT, 1863, Proc. Ent. Soc. Phila., 2:350.

Localities : Cape San Lucas, March 3, 19, 1928, March 21, 1939, November 13, 1939, December 26, 1938; El Tule Ranch, March 5, 1928; Muertos Bay, November 16, 1939, December 29, 1938; Espíritu Santo Island, March 7, 1928; Puerto Escondido, March 8, 1928; Pulpito Bay, January 2, 1939; Thirty miles south El Arco, June 24, 1938.

This butterfly was fairly common along the Gulf coast of Sonora.

(20) **Pieris beckeri** Edwards

Pieris beckeri EDWARDS, 1871, Butterflies No. Amer., p. 28; SEITZ, 1909, Macrolep., 5:59; COMSTOCK, 1927, Butterflies Calif., p. 29; HOLLAND, 1931, Butterfly Book, rev. ed., p. 280.

Locality : Hamilton Ranch, May, 1929 (Henne).

(21) **Pieris sisymbrii** Boisduval

Pieris sisymbrii BOISDUVAL, 1852, Ann. Soc. Ent. Fr., (2), 10:284; SEITZ, 1909, Macrolep., 5:59; COMSTOCK, 1927, Butterflies Calif., p. 30; HOLLAND, 1931, Butterfly Book, rev. ed., p. 281.

Locality : Cape San Lucas, March 22, 1939.

(22) **Pieris protodice** Boisduval and LeConte

Pieris protodice BOISDUVAL and LECONTE, 1833, Lep. Amer. Sept., p. 45; GODMAN and

SALVIN, 1889, Biol. Centr.-Amer., Rhop., 2:130; SEITZ, 1909, Macrolep., 5:59; COMSTOCK, 1927, Butterflies Calif., p. 31; HOLLAND, 1931, Butterfly Book, rev. ed., p. 280.

Localities: Asuncion Bay, November 11, 1939; Cape San Lucas, November 13, 1939; Espíritu Santo Island, March 7, 1928.

This species has been taken at Guaymas, Sonora.

(23) **Ascia sevata kuschei** (Schaus)

Pieris kuschei SCHAUS, 1920, Proc. U. S. Nat. Mus., 57:109.

Localities: Santa Margarita Island, July 29, 1922; El Tule Ranch, March 5, 1928; Muertos Bay, March 7, 1928, March 23, 1939, April 17, 1928, November 16, 1939, December 29, 1938; Ballina Bay, Espíritu Santo Island, December 30, 1938; North end San José Island, December 31, 1938; Pulpito Bay, January 2, 1939; Coyote Cove, Concepcion Bay, October 1, 1941; San Ignacio, June 26, 1938; Fifteen miles north San Ignacio, September 29, 1941; Thirty miles south El Arco, June 24, 1938; Las Animas Bay, January 3, 1939.

Specimens have been taken from the Sonoran mainland along the Gulf of California.

(24) **Ascia monuste raza** Klots

Ascia monuste raza KLOTS, 1930, Pan-Pac. Ent., 6:145¹; HOLLAND, 1931, Butterfly Book, rev. ed., p. 278.

This form was described from specimens taken by various expeditions of the California Academy of Sciences to Lower California. The localities and dates of the specimens in the type series are indicated below.

Localities: Abreojos Point, July 31, 1922 (paratype)¹; Santa Maria Bay, November 12, 1939; Magdalena Bay, May 20, 1925, May 29, 1925 (paratype)¹, July 7, 1938, July 26, 1922; Santa Margarita Island, July 29, 1922 (paratype)¹; Cape San Lucas, March 3, 4, 19, 1928, March 20, 1939, November 13, 1939, December 24, 1938; El Tule Ranch, March 5, 1928; Los Frailes Bay, December 28, 1938; Amortajada Bay, San José Island, December 23, 1938; Puerto Escondido, January 1, 1939; Salinas Bay, Carmen Island, June 10, 16, 1921 (paratypes)¹; San Marte Bay, December 20, 1938; Coyote Cove, Concepcion Bay, October 1, 1941; Las Animas Bay, January 3, 1939; Isla Raza, April 21, 1921 (holotype, paratypes)¹; Smith's Island, Angeles Bay, June 27, 1921 (allotype)¹; Pond Island Bay, Angel de la Guardia Island, June 30, 1921 (paratype)¹; Monument Bay, Tiburon Island, January 4, 1939.

This species has also been found on the coast of the state of Sonora.

DANAIDAE

(25) **Danaus berenice strigosa** (Bates)

Danais strigosa BATES, 1864, Ent. Monthly Mag., 1:32.

Danais berenice strigosa, SEITZ, 1909, Macrolep., 5:114; HOLLAND, 1931, Butterfly Book, rev. ed., p. 69.

Danaus berenice strigosa, COMSTOCK, 1927, Butterflies Calif., p. 60.

Danais berenice (Cramer), GODMAN and SALVIN, 1879, Biol. Centr.-Amer., Rhop., 1:3.

Localities: Ensenada, July 4, 1905; Cedros Island, November 10, 1939; Asuncion Bay, November 11, 1939; Santa Maria Bay, February 25, 1928, November 12, 1939; Cape San Lucas, March 19, 1928, March 21, 1939, November 13, 1939, December 24, 1938; Los Frailes Bay, December 28, 1938; Muertos Bay, March 24, 1939, November 16, 1939; Triunfo, July 15, 1938; North end San José Island, December 31, 1938; Angeles Bay, May 7, 1921.

This butterfly has been found along the Gulf coast of Sonora.

SATYRIDAE

(26) *Coenonympha californica* Westwood and Hewitson

Coenonympha californica WESTWOOD and HEWITSON, 1851, Gen. Diurn. Lepid., 2:398; SEITZ, 1911, Macrolep., 5:226; COMSTOCK, 1927, Butterflies Calif., p. 65; HOLLAND, 1931, Butterfly Book, rev. ed., p. 182; COCKERELL, 1941, Trans. San Diego Soc. Nat. Hist., 9:350¹; DAVENPORT, 1941, Bull. Mus. Comp. Zool. Harvard, 87:260.

Satyrus galactinus BOISDUVAL, 1852, Ann. Soc. Ent. Fr., (2), 10:309.

Coenonympha californica galactinus, SEITZ, 1911, Macrolep., 5:226; COMSTOCK, 1927, Butterflies Calif., p. 66; HOLLAND, 1931, Butterfly Book, rev. ed., p. 182.

Coenonympha ceres BUTLER, 1866, Ent. Monthly Mag., 4:78.

Locality: Ensenada, March 23–26, 1941¹, July 2–5, 1905.

NYMPHALIDAE

HELICONIINAE

(27) *Dione vanillae* (Linnaeus)

Papilio vanillae LINNAEUS, 1758, Syst. Nat. 10 ed., 1:482.

Agraulis vanillae, GODMAN and SALVIN, 1882, Biol. Centr.-Amer., Rhop., 1:171.

Dione vanillae, SEITZ, 1913, Macrolep., 5:401; COMSTOCK, 1927, Butterflies Calif., p. 78; HOLLAND, 1931, Butterfly Book, rev. ed., p. 79.

Papilio passiflorae FABRICIUS, 1793, Ent. Syst., 3:60.

Localities: Cape San Lucas, November 13, 1939, December 25, 1938; Los Frailes Bay, December 28, 1938; Muertos Bay, March 17, 1928, November 16, 1939; Pulpito Bay, January 2, 1939.

This species has been taken on the Gulf coast of Sonora.

NYMPHALINAE

(28) *Euptoieta hegesia* (Cramer)

Papilio hegesia CRAMER, 1782, Pap. Exot., 3:209.

Euptoieta hegesia, GODMAN and SALVIN, 1882, Biol. Centr.-Amer., Rhop., 1:175; SEITZ, 1913, Macrolep., 5:404; COMSTOCK, 1927, Butterflies Calif., p. 80; HOLLAND, 1931, Butterfly Book, rev. ed., p. 81.

Localities: Cape San Lucas, March 4, 1928, March 21, 1939, November 13, 1939, December 24, 1938; El Tule Ranch, March 5, 1928; Los Frailes Bay, December 28, 1938; Five miles west San Bartolo, July 13, 1938; Muertos Bay, March 17, 1928, December 29, 1938; Espíritu Santo Island, March 7, 1928; North end San José Island, December 31, 1938.

This butterfly occurs in the state of Sonora along the Gulf of California.

(29) **Melitaea gabbii** Behr

Melitaea gabbii BEHR, 1863, Proc. Calif. Acad. Nat. Sci., 3:89; SEITZ, 1913, Macrolep., 5:432; COMSTOCK, 1927, Butterflies Calif., p. 108; HOLLAND, 1931, Butterfly Book, rev. ed., p. 124.

Melitaea sonora BOISDUVAL, 1869, Ann. Soc. Ent. Belgique, 12:56.

Locality: Ensenada, July 2-5, 1905.

(30) **Anthanassa texana** (Edwards)

Melitaea texana EDWARDS, 1863, Proc. Ent. Soc. Phila., 2:81.

Phyciodes texana, GODMAN and SALVIN, 1882, Biol. Centr.-Amer., Rhop., 1:200; SEITZ, 1913, Macrolep., 5:442.

Anthanassa texana, HOLLAND, 1931, Butterfly Book, rev. ed., p. 141.

Eresia smerdis HEWITSON, 1864, Ex. Butt., 3: Efesia, 5.

Localities: Las Animas, Sierra Laguna, October 12, 1941; Big Canyon, Sierra Laguna, October 13, 1941; Cape San Lucas, March 5, 1928, March 20, 1939, November 13, 1939; Los Frailes Bay, December 28, 1938; Ballina Bay, Espíritu Santo Island, December 30, 1938; Puerto Escondido, March 8, 1928; San Marte Bay, December 20, 1938.

This species was found along the coast of Sonora, as well as in the inland portion.

(31) **Chlosyne lacinia crocale** (Edwards)

Synchloe crocale EDWARDS, 1874, Trans. Amer. Ent. Soc., 5:17.

Chlosyne lacinia crocale, SEITZ, 1913, Macrolep., 5:451; COMSTOCK, 1927, Butterflies Calif., p. 119; HOLLAND, 1931, Butterfly Book, rev. ed., p. 143.

Synchloe lacinia (Geyer), GODMAN and SALVIN, 1882, Biol. Centr.-Amer., Rhop., 1:176.

Locality: Mexicali, June 25, 1939.

This butterfly has also been found along the Sonoran coast.

(32) **Chlosyne californica** (Wright)

Synchloe californica WRIGHT, 1905, Butterflies West Coast, p. 170.

Chlosyne californica, SEITZ, 1913, Macrolep., 5:451; COMSTOCK, 1927, Butterflies Calif., p. 120; HOLLAND, 1931, Butterfly Book, rev. ed., p. 143.

Localities: Fifteen miles north San Ignacio, September 29, 1941; Espíritu Santo Island, March 7, 1928.

(33) **Mestra amymone** (Ménétriés)

Cystineura amymone MÉNÉTRIÉS, 1857, Cat. Mus. St. Pet., 1:123; GODMAN and SALVIN, 1883, Biol. Centr.-Amer., Rhop., 1:1278; SEITZ, 1913, Macrolep., 5:467.

Mestra amymone, HOLLAND, 1931, Butterfly Book, rev. ed., p. 144.

Locality: Cape San Lucas, March 22, 1939, December 24, 1938.

This species has been found along the Gulf coast of Sonora.

(34) **Vanessa cardui** (Linnaeus)

Papilio cardui LINNAEUS, 1758, Syst. Nat., 10 ed., 1:475.

Pyrameis cardui, GODMAN and SALVIN, 1882, Biol. Centr.-Amer., Rhop., 1:217; SEITZ, 1913, Macrolep., 5:458.

Vanessa cardui, COMSTOCK, 1927, Butterflies Calif., p. 133; HOLLAND, 1931, Butterfly Book, rev. ed., p. 154; COCKERELL, 1941, Trans. San Diego Soc. Nat. Hist., 9:350¹.
Papilio carduelis SEBA, 1765, Thes., 4:6.

Localities: Ensenada, April 10–27, 1941¹; Todos Santos Islands, July 30, 1937; San Martin Island, July 25, 1937, December 16, 1938; San Quentin Bay, July 12, 1938; Cedros Island, July 27, 1937, November 10, 1939; Asuncion Bay, November 11, 1939; Cape San Lucas, November 13, 1939, December 25, 1938; Muertos Bay, November 16, 1939; North end San José Island, December 31, 1938; Las Animas Bay, January 3, 1939.

This cosmopolitan butterfly was also found along the Gulf coast of the state of Sonora.

(35) ***Vanessa carye* (Hübner)**

Hamadryas decora carye HÜBNER, 1806, Samml. ex. Schmett., 1:45.

Pyrameis carye, GODMAN and SALVIN, 1882, Biol. Centr.-Amer., Rhop., 1:219; SEITZ, 1913, Macrolep., 5:459.

Vanessa carye, COMSTOCK, 1927, Butterflies Calif., p. 134; HOLLAND, 1931, Butterfly Book, rev. ed., p. 154; VAN DUZEE, 1932, Proc. Calif. Acad. Sci., (4), 21:142¹.

Vanessa charie BLANCHARD, 1852, Gay's Faun. Chil., 7:26.

Locality: San Martin Island, August 19, 1932¹.

(36) ***Junonia lavinia* (Cramer)**

Papilio lavinia CRAMER, 1782, Pap. Exot., 4:290.

Precis lavinia, SEITZ, 1913, Macrolep., 5:461.

Junonia lavinia, HOLLAND, 1931, Butterfly Book, rev. ed., p. 156.

Localities: Santa Maria Bay, February 23, 1928, November 12, 1939; Amortajada Bay, San José Island, December 23, 1938; Puerto Escondido, January 1, 1939.

This butterfly also occurs on the Sonoran mainland along the Gulf of California.

(37) ***Anartia jatrophae* Johanssen**

Anartia jatrophae JOHANSSEN, 1764, Amoen. Acad., 6:408; GODMAN and SALVIN, 1882, Biol. Centr.-Amer., Rhop., 1:221; SEITZ, 1913, Macrolep., 5:462; HOLLAND, 1931, Butterfly Book, rev. ed., p. 157.

Papilio jatrophae, LINNAEUS, 1764, Mus. Lud. Ulr. Reg., p. 289.

Locality: Cape San Lucas, November 13, 1939, December 25, 1938.

(38) ***Myscelia streckeri* Skinner**

Myscelia streckeri SKINNER, 1889, Trans. Amer. Ent. Soc., 16:87; WEEKS, 1905, Ill. Unfig. Lep., 1:6.

Myscelia skinneri streckeri, SEITZ, 1915, Macrolep., 5:483.

Skinner, in his original description, gave the type locality as "Lower California." This species appears to be indigenous to the peninsula.

Localities: Cape San Lucas, March 4, 19, 1928, November 14, 1939, December 25, 1938; Los Frailes Bay, December 28, 1938; Muertos Bay, November 16, 1939; Fifteen miles west La Paz, July 5, 1938; Ten miles northwest La Paz, October 6, 1941; North end San José Island, December 31, 1938; Pulpito Bay, January 2, 1939.

(39) **Anaea aidea** (Guerin)

Nymphalis (Thymetes ?) aidea GUERIN, 1844, Icon. Regne Anim. Ins. texte, p. 478.

Anaea aidea, GODMAN and SALVIN, 1882, Biol. Centr.-Amer., Rhop., 1:338; SEITZ, 1916, Macrolep., 5:582.

Aneae morrisonii EDWARDS, 1883, Pap., 3:8; HOLLAND, 1931, Butterfly Book, rev. ed., p. 173.

Localities: Todos Santos (Cape region), October 18, 1941; Cape San Lucas, March 21, 1939, November 14, 1939; Santiago, July 8, 1938; Muertos Bay, November 16, 1939; Ten miles northwest La Paz, October 6, 1941; Pulpito Bay, January 2, 1939; Coyote Cove, Concepcion Bay, October 1, 1941.

This species has been taken on the coast of the state of Sonora.

LIBYTHEIDAE

(40) **Libythea bachmanii** Kirtland

Libythea bachmanii KIRTLAND, 1852, Amer. Jour. Sci., 2:13, 336; SEITZ, 1916, Macrolep., 5:623; COMSTOCK, 1927, Butterflies Calif., p. 147; HOLLAND, 1931, Butterfly Book, rev. ed., p. 210.

Localities: Cape San Lucas, March 22, 1938, November 13, 1939, December 26, 1938; North end San José Island, December 31, 1938; Pulpito Bay, January 2, 1939.

This species was found along the Gulf coast of Sonora.

ERYCINIDAE

(41) **Lymnas cephise acroleuca** (Felder)

Limnas acroleuca FELDER, 1869, Verh. zool.-bot. Ges. Wien, p. 467; GODMAN and SALVIN, 1886, Biol. Centr.-Amer., Rhop., 1:411.

Lymnas cephise acroleuca, SEITZ, 1917, Macrolep., 5:660.

Localities: Cape San Lucas, November 14, 1939; Agua Caliente (Cape region), October 18, 1941.

RIODINIDAE

(42) **Apodemia mormo** (Felder)

Lemonias mormo FELDER, 1859, Wien. Ent. Mon., 3:271.

Apodemia mormo, SEITZ, 1917, Macrolep., 5:700; COMSTOCK, 1927, Butterflies Calif., p. 149; HOLLAND, 1931, Butterfly Book, rev. ed., p. 212.

Nemeobius dumetii BEHR, 1865, Proc. Calif. Acad. Nat. Sci., (2), 3:178.

Chrysobia mormonia BOISDUVAL, 1868, Ann. Soc. Ent. Belgique, 12:52.

Localities: Cedros Island, July 14, 1938, November 10, 1939; Angeles Bay, June 26, 1921, July 25, 1921.

(43) **Apodemia mormo virgulti** (Behr)

Nemeobius virgulti BEHR, 1865, Proc. Calif. Acad. Nat. Sci., 3:178.

Apodemia virgulti, GODMAN and SALVIN, 1886, Biol. Centr.-Amer., Rhop., 1:467; HOLLAND, 1931, Butterfly Book, rev. ed., p. 212.

Apodemia mormo virgulti, SEITZ, 1917, Macrolep., 5:700; COMSTOCK, 1927, Butterflies Calif., p. 149.

Apodemia sonorensis FELDER, 1865, Reise Nov. Lep., 2:303.

Lemonias cythera EDWARDS, 1873, Trans. Amer. Ent. Soc., 4:345.

Apodemia cythera, GODMAN and SALVIN, 1882, Biol. Centr.-Amer., Rhop., 1:467; HOLLAND, 1931, Butterfly Book, rev. ed., p. 212.

Apodemia mormo cythera, SEITZ, 1917, Macrolep., 5:700.

Localities: Ensenada, July 2-5, 1905; Cedros Island, July 27, 1937.

(44) **Apodemia mormo maxima** (Weeks)

Lemonias maxima WEEKS, 1891, Ent. News, 2:104¹; WEEKS, 1905, Ill. Unfig. Lep., 1:3.

Apodemia mormo maxima, SEITZ, 1917, Macrolep., 5:700.

This form of metal-mark was described from specimens taken near San José del Cabo in August, 1888¹.

Localities: Cape San Lucas, November 13, 1939, December 24, 1938; Los Frailes Bay, December 28, 1938; Muertos Bay, March 23, 1939, November 16, 1939, December 29, 1938; Pulpito Bay, January 2, 1939; Agua Verde, May 26, 1921; Coyote Cove, Concepcion Bay, October 1, 1941; Ten miles east San Ignacio, November 30, 1941; Fifteen miles north San Ignacio, November 29, 1941; Monument Bay, Tiburon Island, January 4, 1939.

This species was also found along the coast of Sonora.

(45) **Apodemia palmeri** (Edwards)

Lemonias palmeri EDWARDS, 1870, Trans. Amer. Ent. Soc., 3:195.

Apodemia palmeri, GODMAN and SALVIN, 1882, Biol. Centr.-Amer., Rhop., 1:468; SEITZ, 1917, Macrolep., 5:700; HOLLAND, 1931, Butterfly Book, rev. ed., p. 213.

Localities: Cape San Lucas, March 3, 1928, March 22, 1939, November 13, 1939, December 26, 1938; El Tule Ranch, March 5, 1928; Muertos Bay, March 23, 1939, November 16, 1939, December 29, 1938; La Paz, June 5, 1921; Ballina Bay, Espíritu Santo Island, December 30, 1938; Twenty miles south San Ignacio, June 25, 1938; Las Animas Bay, May 8, 1921; Twenty miles west San Augustine, September 24, 1941.

This small butterfly has been found along the Gulf of California in Sonora, as well as in the inland portions of that state.

(46) **Calephalis nemesis** (Edwards)

Charis nemesis EDWARDS, 1871, Trans. Amer. Ent. Soc., 3:212; SEITZ, 1917, Macrolep., 5:689.

Calephalis nemesis, COMSTOCK, 1927, Butterflies Calif., p. 151; HOLLAND, 1931, Butterfly Book, rev. ed., p. 218.

Charis australis EDWARDS, 1877, Field and Forest, 3:87; GODMAN and SALVIN, 1882, Biol. Centr.-Amer., Rhop., 1:430; SEITZ, 1917, Macrolep., 5:689.

Calephalis australis, HOLLAND, 1931, Butterfly Book, rev. ed., p. 218.

Calephalis nemesis australis, COMSTOCK, 1927, Butterflies Calif., p. 152.

Charis guadeloupe STRECKER, 1878, Lep. Rhop. and Heter., p. 131.

Localities for typical *nemesis*: Los Frailes Bay, December 28, 1938; Muertos Bay, November 16, 1938.

Localities for form *australis*: Cedros Island, March 15, 1938, March 18, 1939, July 22, 1922, July 27, 1937, November 10, 1939; Santa Maria Bay, November 12, 1939; Coyote Cove, Concepcion Bay, October 1, 1941.

Australis has also been taken on the Gulf coast of the state of Sonora.

LYCAENIDAE

THECLINAE

(47) **Atlides halesus** (Cramer)

Papilio halesus CRAMER, 1779, Pap. Exot., 2:98.

Thecla halesus, GODMAN and SALVIN, 1887, Biol. Centr.-Amer., Rhop., 2:18; SEITZ, 1919, Macrolep., 5:750.

Atlides halesus, COMSTOCK, 1927, Butterflies Calif., p. 154; HOLLAND, 1931, Butterfly Book, rev. ed., p. 224.

Atlides dolichos HÜBNER, 1818, Zutr. exot. Schmett., 2:9.

Thecla juanita SCUDDER, 1868, Proc. Boston Soc. Nat. Hist., 11:435.

Locality: Coyote Cove, Concepcion Bay, October 1, 1941.

(48) **Strymon simaethis** (Drury)

Papilio simaethis DRURY, 1770, Ill. Exot. Ent., 1:1.

Thecla simaethis, GODMAN and SALVIN, 1887, Biol. Centr.-Amer., Rhop., 2:81; SEITZ, 1919, Macrolep., 5:798; HOLLAND, 1931, Butterfly Book, rev. ed., p. 232.

Thecla sarita SKINNER, 1895, Ent. News, 6:112.

Localities: Asuncion Bay, November 11, 1939; Cape San Lucas, November 13, 1939, December 24, 1938; Muertos Bay, November 16, 1939; Espíritu Santo Island, March 7, 1928, December 30, 1938 (Ballina Bay); North end San José Island, December 31, 1938; Puerto Escondido, January 1, 1939; Pulpito Bay, January 2, 1939; San Marte Bay, December 20, 1938; Coyote Cove, Concepcion Bay, October 1, 1941.

(49) **Strymon columella** (Fabricius)

Papilio columella FABRICIUS, 1793, Ent. Syst., 3:1, 282.

Strymon columella, COMSTOCK, 1927, Butterflies Calif., p. 156.

Thecla columella, HOLLAND, 1931, Butterfly Book, rev. ed., p. 240.

Tmolus eurytulus HÜBNER, 1806-1824, Samml. exot. Schmett., 2.

Thecla eurytulus, GODMAN and SALVIN, 1887, Biol. Centr.-Amer., Rhop., 2:96; SEITZ, 1919, Macrolep., 5:806.

Thecla istapa REAKIRT, 1866, Proc. Acad. Nat. Sci. Phila., p. 339.

Thecla ocellifera GROTE, 1873, Buff. Bull., 1:78.

Thecla modesta MAYNARD, 1873, Amer. Nat., 7:178.

Thecla salona HEWITSON, 1874, Ill. Diurn. Lep., p. 159.

Localities: Cape San Lucas, March 19, 1928, November 13, 1939, December 24, 1938; El Tule Ranch, March 5, 1928; Los Frailes Bay, December 28, 1938; Muertos Bay, December 29, 1938; La Paz, March 15, 1928; Espíritu Santo Island, March 7, 1928; North end San José Island, December 31, 1938; Pulpito Bay, January 2, 1939; San Marcos Island, June 19, 1921; Puerto Refugio, Angel de la Guardia Island, June 29, 1921.

(50) **Strymon leda** (Edwards)

Thecla leda EDWARDS, 1882, Pap., 2:23; GODMAN and SALVIN, 1887, Biol. Centr.-Amer., Rhop., 2:90; SEITZ, 1919, Macrolep., 5:805; HOLLAND, 1931, Butterfly Book, rev. ed., p. 240.

Strymon leda, COMSTOCK, 1927, Butterflies Calif., p. 156.

Localities: Puerto Escondido, June 14, 1921; Angeles Bay, June 26, 1921.

(51) **Strymon leda ines** (Edwards)

Thecla ines EDWARDS, 1882, Pap., 2:25; SEITZ, 1919, Macrolep., 5:805; HOLLAND, 1931, Butterfly Book, rev. ed., p. 240.

Strymon leda ines, COMSTOCK, 1927, Butterflies Calif., p. 157.

Localities: Cape San Lucas, November 15, 1939, December 20, 1938; Muertos Bay, November 16, 1939, December 29, 1938; North end San José Island, December 31, 1938; Pulpito Bay, January 2, 1939; San Marte Bay, December 20, 1938; Angeles Bay, May 5, 1921.

(52) **Strymon melinus** Hübner

Strymon melinus HÜBNER, 1818, Zutr. exot. Schmett., 1:22; COMSTOCK, 1927, Butterflies Calif., p. 157.

Thecla melinus, GODMAN and SALVIN, 1887, Biol. Centr.-Amer., Rhop., 2:92; SEITZ, 1919, Macrolep., 5:806; HOLLAND, 1931, Butterfly Book, rev. ed., p. 235.

Thecla hyperici BOISDUVAL and LECONTE, 1833, Lep. Amer. Sept., p. 90.

Thecla humuli HARRIS, 1841, Ins. Inj. Veg., 1st ed., p. 215.

Localities: Ensenada, July 2-5, 1905; San Martin Island, July 11, 1905; Cedros Island, March 18, 1939, July 18, 1905, November 10, 1939; Asuncion Bay, November 11, 1939; Santa Maria Bay, November 12, 1939; Magdalena Bay, May 29, 1925; Cape San Lucas, November 13, 1939, December 25, 1938; El Tule Ranch, March 5, 1928; Los Frailes Bay, December 28, 1938; Espíritu Santo Island, March 7, 1928; North end San José Island, December 31, 1938; San Marte Bay, December 20, 1938; Angeles Bay, June 26, 1921.

This butterfly was fairly common along the Gulf coast of Sonora, as well as in the inland regions of that state.

(53) **Strymon festata** (Weeks)

Hypolycaena festata WEEKS, 1891, Ent. News, 2:102¹; WEEKS, 1905, Ill. Unfig. Lep., 1:1.

This hair-streak was described from specimens taken in August, 1888, near San José del Cabo¹.

Localities: Abreojos Point, July 31, 1922; Cape San Lucas, November 13, 1939, December 24, 1938; El Tule Ranch, March 5, 1928; Muertos Bay, November 16, 1939, December 24, 1938; La Paz, June 3, 1921; North end San José Island, December 31, 1938; Puerto Escondido, January 1, 1939; Pulpito Bay, January 2, 1939; San Marte Bay, December 20, 1938; Coyote Cove, Concepcion Bay, October 1, 1941.

This species has also been taken along the coast of Sonora bordering the Gulf of California.

LYCAENINAE

(54) **Lycaena hermes** (Edwards)

Chrysophanus hermes EDWARDS, 1870, Trans. Amer. Ent. Soc., 3:21; SEITZ, 1919, Macrolep., 5:812; HOLLAND, 1931, Butterfly Book, rev. ed., p. 247.

Tharsalea hermes, COMSTOCK, 1927, Butterflies Calif., p. 172.

Chrysophanus del-sud WRIGHT, 1905, Butterflies West Coast, p. 215.

Locality: Five miles north of Ensenada, May, 1929 (Henne).

(55) **Lycaena xanthoides** (Boisduval)

Polyommatus xanthoides BOISDUVAL, 1852, Ann. Soc. Ent. Fr., (2), 10:292.

Chrysophanus xanthoides, SEITZ, 1919, Macrolep., 5:812; HOLLAND, 1931, Butterfly Book, rev. ed., p. 247.

Heodes xanthoides, COMSTOCK, 1927, Butterflies Calif., p. 172.

Locality: Johnson Ranch (ten miles north Hamilton Ranch), May, 1929 (Henne).

PLEBEIINAE

(56) **Leptotes marina** (Reakirt)

Lycaena marina REAKIRT, 1868, Proc. Acad. Nat. Sci. Phila., p. 87; GODMAN and SALVIN, 1887, Biol. Centr.-Amer., Rhop., 2:106; HOLLAND, 1931, Butterfly Book, rev. ed., p. 272.

Leptotes marina, SEITZ, 1921, Macrolep., 5:820; COMSTOCK, 1927, Butterflies Calif., p. 177.

Localities: Ensenada, July 5, 1905; Cedros Island, March 18, 1939, July 14, 1938; Asuncion Bay, November 11, 1939; Cape San Lucas, March 3, 20, 1928, March 20, 1939, November 14, 1939, December 26, 1938; El Tule Ranch, March 5, 1928; Muertos Bay, March 23, 1939; Espíritu Santo Island, March 7, 1928; North end San José Island, December 31, 1938; Canipole, October 2, 1941; Angeles Bay, June 26, 1921.

(57) **Brephidium exilis** (Boisduval)

Lycaena exilis BOISDUVAL, 1852, Ann. Soc. Ent. Fr., (2), 10:294; GODMAN and SALVIN, 1887, Biol. Centr.-Amer., Rhop., 2:109; HOLLAND, 1931, Butterfly Book, rev. ed., p. 273.

Brephidium exilis, SEITZ, 1921, Macrolep., 5:820; COMSTOCK, 1927, Butterflies Calif., p. 178.

Lycaena fea EDWARDS, 1871, Trans. Amer. Ent. Soc., 3:211.

Localities: Ensenada, July 2-5, 1905; San Martin Island, June 8, 1925, July 11, 1905, July 25, 1937, November 9, 1939; San Bartolome Bay, June 1, 1925; Asuncion Bay, November 11, 1939; Santa Maria Bay, November 12, 1939; Magdalena Bay, July 17, 1938; Cape San Lucas, March 3, 20, 1928; March 20, 1939, November 13, 1939, December 24, 1938; Muertos Bay, March 24, 1939, November 16, 1939, December 29, 1938; San José Island, December 23, 1938 (Amortajada Bay), December 31, 1938 (north end of island); Puerto Escondido, June 14, 1921; Salinas Bay, Carmen Island, June 18, 1921; San Marte Bay, December 20, 1938; Santa Inez Island, May 13, 1921; San Francisco Bay, May 10, 1921; Isla Raza, April 21, 1921.

This species has also been found along the coast of Sonora.

(58) **Hemiargus gyas** (Edwards)

Lycaena gyas EDWARDS, 1871, Trans. Amer. Ent. Soc., 3:210; HOLLAND, 1931, Butterfly Book, rev. ed., p. 271.

Hemiargus gyas, SEITZ, 1921, Macrolep., 5:819; COMSTOCK, 1927, Butterflies Calif., p. 181.
Lycaena astragala WRIGHT, 1905, Butterflies West Coast, p. 232.

Localities: Ensenada, July 2-5, 1905; Cedros Island, June 4, 1925, July 17, 1938, July 27, 1937, November 10, 1939; San Bartolome Bay, June 2, 1925; Asuncion Bay, November 11, 1939; Santa Maria Bay, February 25, 1928, November 12, 1939; Magdalena Bay, May 30, 1925; Cape San Lucas, March 3, 1928, March 20, 1939, May 28, 1925, November 13, 1939, December 24, 1938; Los Frailes Bay, December 28, 1938; Muertos Bay, March 23, 1939, November 16, 1939; Espíritu Santo Island, March 7, 1928, December 30, 1938 (Ballina Bay); North end San José Island, December 31, 1938; Puerto Escondido, January 1, 1939; Pulpito Bay, January 2, 1939; Carmen Island, May 15, 1921 (Agua Grande), May 23, 1921 (Marquer Bay); San Marte Bay, December 20, 1938; Coyote Cove, Concepcion Bay, June 18, 1921; San Francisquito Bay, May 10, 1921; Las Animas Bay, May 8, 1921; Angeles Bay, May 7, 1921.

This common species was also abundant in the coastal region of the state of Sonora.

(59) **Hemiargus isola** (Reakirt)

Lycaena isola REAKIRT, 1866, Proc. Acad. Nat. Sci. Phila., p. 332; GODMAN and SALVIN, 1887, Biol. Centr.-Amer., Rhop., 2:104; HOLLAND, 1931, Butterfly Book, rev. ed., p. 271.

Hemiargus isola, SEITZ, 1921, Macrolep., 5:819; COMSTOCK, 1927, Butterflies Calif., p. 181.

Lampides zachaenia BUTLER and DRUCE, 1870, Cist. Ent., 1:104.

Lycaena alce EDWARDS, 1871, Trans. Amer. Ent. Soc., 3:272.

Localities: Ensenada, July 2-5, 1905; Las Animas Bay, May 8, 1921.

(60) **Everes amyntula** (Boisduval)

Lycaena amyntula BOISDUVAL, 1852, Ann. Soc. Ent. Fr., (2), 10:294; HOLLAND, 1931, Butterfly Book, rev. ed., p. 269.

Everes amyntula, SEITZ, 1921, Macrolep., 5:818; COMSTOCK, 1927, Butterflies Calif., p. 182.

Locality: Hamilton Ranch, May, 1929 (Henne).

(61) **Plebeius acmon** (Westwood and Hewitson)

Lycaena acmon WESTWOOD and HEWITSON, 1852, Gen. Diurn. Lep., p. 294; GODMAN and SALVIN, 1887, Biol. Centr.-Amer., Rhop., 2:103; SEITZ, 1921, Macrolep., 5:817; HOLLAND, 1931, Butterfly Book, rev. ed., p. 264.

Plebejus acmon, COMSTOCK, 1927, Butterflies Calif., p. 188.

Lycaena antaegon BOISDUVAL, 1852, Ann. Soc. Ent. Fr., (2), 10:295.

Locality: Ensenada, July 5, 1905.

(62) **Philotes battoides** (Behr)

Lycaena battoides BEHR, 1867, Proc. Calif. Acad. Nat. Sci., 3:282; SEITZ, 1921, Macrolep., 5:816; HOLLAND, 1931, Butterfly Book, rev. ed., p. 265.

Philotes battoides, COMSTOCK, 1927, Butterflies Calif., p. 191.

The Mexican specimens, especially the ones from Cedros Island, are of quite

a different appearance beneath than typical *battoides*, and may constitute a new geographical race of that species.

Localities: Johnson Ranch (ten miles north Hamilton Ranch), May, 1929 (Henne); Cedros Island, March 18, 1938.

(63) ***Lycaenopsis pseudargiolus echo* (Edwards)**

Lycaena pseudargiolus echo EDWARDS, 1864, Proc. Ent. Soc. Phila., 2:506; HOLLAND, 1931, Butterfly Book, rev. ed., p. 256.

Lycaenopsis pseudargiolus echo, COMSTOCK, 1927, Butterflies Calif., p. 200.

Locality: Cedros Island, March 18, 1939, July 14, 1937, July 17, 1938, November 10, 1939.

HESPERIIDAE

PYRGINAE

(64) ***Urbanus proteus* (Linnaeus)**

Papilio proteus LINNAEUS, 1758, Syst. Nat., 10th ed., 1:484.

Eudamus proteus, GODMAN and SALVIN, 1893, Biol. Centr.-Amer., Rhop., 2:277; SEITZ, 1921, Macrolep., 5:853; HOLLAND, 1931, Butterfly Book, rev. ed., p. 331.

Goniurus proteus, COMSTOCK, 1927, Butterflies Calif., p. 204.

Thymele domingo SCUDDER, 1872, Rept. Peabody Acad. Sci., p. 69.

Localities: Santa Maria Bay, November 12, 1939; Cape San Lucas, March 3, 19, 1928, March 21, 1939, November 13, 1939, December 24, 1938; Los Frailes Bay, December 28, 1938; Muertos Bay, March 7, 1928; San Marte Bay, December 20, 1938.

This species was also found along the coast line of Sonora.

(65) ***Urbanus dorantes* (Stoll)**

Papilio dorantes STOLL, 1791, Suppl. Pap. Exot., p. 172.

Eudamus dorantes, GODMAN and SALVIN, 1893, Biol. Centr.-Amer., Rhop., 2:278; SEITZ, 1921, Macrolep., 5:853; HOLLAND, 1931, Butterfly Book, rev. ed., p. 331.

Eudamus amisus HEWITSON, 1867, Descr. Hesp., p. 5.

Eudamus protillus HERRICH-SCHAEFFER, 1869, Corresp. blatt Regensb., 23:171.

Goniurus kefersteinii PLOETZ, 1880, Bull. Soc. Nat. Mose., 55:11.

Localities: Cape San Lucas, March 3, 20, 1928, November 13, 1939, December 24, 1938; Los Frailes Bay, December 28, 1938; Muertos Bay, November 16, 1939; Ballina Bay, Espíritu Santo Island, December 30, 1938; Puerto Escondido, January 1, 1939; Pulpito Bay, January 2, 1939.

(66) ***Chioides albofasciatus* (Hewitson)**

Eudamus albofasciatus HEWITSON, 1867, Descr. Hesp., p. 3; GODMAN and SALVIN, 1893, Biol. Centr.-Amer., Rhop., 2:280; SEITZ, 1921, Macrolep., 5:855; HOLLAND, 1931, Butterfly Book, rev. ed., p. 332.

Localities: Cape San Lucas, March 5, 1928, November 13, 1939, December 24, 1938; El Tule Ranch, March 4, 1928; Los Frailes Bay, December 28, 1938; North end San José Island, December 31, 1938; Pulpito Bay, January 2, 1939.

(67) ***Heteropia cyda*** Godman and Salvin

Heteropia cyda GODMAN and SALVIN, 1901, Biol. Centr.-Amer., Rhop., 2:734; SEITZ, 1917, Macrolep., 5:859.

Locality : Cape San Lucas, November 13, 1939.

(68) ***Pyrgus philetas*** Edwards

Pyrgus philetas EDWARDS, 1881, Pap., 1:46.

Hesperia philetas, SEITZ, 1923, Macrolep., 5:918; HOLLAND, 1931, Butterfly Book, rev. ed., p. 342.

Localities : Big Canyon, Sierra Laguna, October 13, 1941; Miraflores, July 10, 1938; Cape San Lucas, November 14, 1939, December 25, 1938; Los Frailes Bay, December 28, 1938.

(69) ***Pyrgus communis albescens*** Ploetz

Pyrgus albescens PLOETZ, 1884, Mitth. Nat. Ver. Vorpomm., 15:4.

Pyrgus adjutrix PLOETZ, 1884, Mitth. Nat. Ver. Vorpomm., 15:15.

Pyrgus varus PLOETZ, 1884, Mitth. Nat. Ver. Vorpomm., 15:20.

Hesperia montivaga GODMAN and SALVIN, 1899, Biol. Centr.-Amer., Rhop., 2:450.

Pyrgus occidentalis SKINNER, 1906, Ent. News, 17:96.

Hesperia montivaga occidentalis, SEITZ, 1923, Macrolep., 5:919.

Urbanus tessellata occidentalis, COMSTOCK, 1927, Butterflies Calif., p. 207.

Hesperia communis occidentalis, HOLLAND, 1931, Butterfly Book, rev. ed., p. 342.

Localities : Las Animas, Sierra Laguna, October 12, 1941; Cape San Lucas, March 21, 1939; Puerto Escondido, January 1, 1939; Angeles Bay, May 5, 1921, June 26, 1921, July 25, 1921.

This species also inhabits the Gulf coast of Sonora.

(70) ***Pyrgus domicella*** (Erichson)

Syrichtus domicella ERICHSON, 1848, Schomb. Reise, 3:604.

Helioptetes domicella, GODMAN and SALVIN, 1881, Biol. Centr.-Amer., Rhop., 2:444; SEITZ, 1923, Macrolep., 5:914.

Hesperia domicella, HOLLAND, 1931, Butterfly Book, rev. ed., p. 343.

Hesperia nearchus EDWARDS, 1882, Pap., 2:26.

Pyrgus willi PLOETZ, 1884, Mitth. Nat. Ver. Vorpomm., 15:3.

Pyrgus aconita PLOETZ, 1884, Mitth. Nat. Ver. Vorpomm., 15:3.

Localities : Cape San Lucas, November 14, 1939; North end San José Island, December 31, 1938.

(71) ***Helioptetes laviana*** (Hewitson)

Leucochitonaea laviana HEWITSON, 1868, Descr. Hesp., p. 48.

Helioptetes laviana, GODMAN and SALVIN, 1881, Biol. Centr.-Amer., Rhop., 2:448; SEITZ, 1923, Macrolep., 5:915.

Hesperia laviana, HOLLAND, 1931, Butterfly Book, rev. ed., p. 343.

Leucochitonaea pastor FELDER, 1869, Verh. zool.-bot. Ges. Wien, p. 476.

Pyrgus leca BUTLER, 1870, Trans. Ent. Soc. London, p. 510.

Localities : Cape San Lucas, March 22, 1939, November 13, 1939, December 25, 1938; Muertos Bay, March 24, 1939, November 16, 1939, December 29,

1938; San Pedro, October 7, 1941; Ballina Bay, Espíritu Santo Island, December 30, 1938; North end San José Island, December 31, 1938; Pulpito Bay, January 2, 1939.

This species was also found along the Gulf of California in the state of Sonora.

(72) **Antigonus pulverulenta** (Felder)

Leucochitonea pulverulenta FELDER, 1869, Verh. zool.-bot. Ges. Wien, p. 478.

Systacea pulverulenta, GODMAN and SALVIN, 1895, Biol. Centr.-Amer., Rhop., 2:413; SEITZ, 1923, Macrolep., 5:409; HOLLAND, 1931, Butterfly Book, rev. ed., p. 344.

Antigonus pulverulenta, COMSTOCK, 1927, Butterflies Calif., p. 210.

Hesperia zampa EDWARDS, 1876, Trans. Amer. Ent. Soc., 5:207.

Tagiades taeniatus PLOETZ, 1884, Jahrb. nass. Ver., 37:41.

Localities: Cape San Lucas, November 13, 1939, December 24, 1938; Los Frailes Bay, December 28, 1938; Muertos Bay, March 23, 1939, November 16, 1939, December 29, 1938; North end San José Island, December 31, 1938; Puerto Escondido, January 1, 1939; Pulpito Bay, January 2, 1939.

This skipper was found in the state of Sonora, both along the coast and inland.

(73) **Pholisora libya** (Scudder)

Heteropterus libya SCUDDER, 1878, Bull. Geol. Surv. Terr., 4:258.

Pholisora libya, SEITZ, 1923, Macrolep., 5:913; COMSTOCK, 1927, Butterflies Calif., p. 211; HOLLAND, 1931, Butterfly Book, rev. ed. p. 345.

Localities: Angeles Bay, June 26, 1921, July 25, 1921; Puerto Refugio, Angel de la Guardia Island, June 29, 1921.

(74) **Chiomara asychis** (Cramer)

Papilio asychis CRAMER, 1782, Papillons Exot., 4:87.

Chiomara asychis, GODMAN and SALVIN, 1899, Biol. Centr.-Amer., Rhop., 2:453; SEITZ, 1923, Macrolep., 5:913; HOLLAND, 1931, Butterfly Book, rev. ed., p. 348.

Pyrgus georgina REAKIRT, 1868, Proc. Acad. Nat. Sci. Phila., 20:88.

Ephyriades dilucida PLOETZ, 1884, Jahrb. nass. Ver., 37:4.

Pyrgus pelagica WEEKS, 1891, Can. Ent., 23:126.

Localities: Santa María Bay, November 12, 1939; Cape San Lucas, March 3, 1928, March 21, 1939, November 13, 1939, December 24, 1938; near San José del Cabo, August, 1888¹; Los Frailes Bay, December 28, 1938; Muertos Bay, March 23, 1939, November 16, 1939, December 29, 1938; San Pedro, October 7, 1941; Espíritu Santo Island, March 7, 1928, December 30, 1938 (Ballina Bay); North end San José Island, December 31, 1938; Pulpito Bay, January 2, 1939; Canipole, October 2, 1941; San Marte Bay, December 20, 1938.

This common species was also found in the coastal regions of Sonora.

(75) **Erynnis funeralis** (Scudder and Burgess)

Nisoniades funeralis SCUDDER and BURGESS, 1870, Proc. Boston Soc. Nat. Hist., 13:293.

Thanaos funeralis, GODMAN and SALVIN, 1899, Biol. Centr.-Amer., Rhop., 2:456; SEITZ, 1923, Macrolep., 5:917; HOLLAND, 1931, Butterfly Book, rev. ed., p. 355.

- Erynnis funeralis*, COMSTOCK, 1927, Butterflies Calif., p. 214.
Helias clericalis BURMEISTER, 1878, Deser. Phys. Republique Argent., 5:258.
Nisoniades australis MABILLE, 1883, Ann. Soc. Ent. Belgique, 27:liv.
Nisoniades clitus WRIGHT, 1905, Butterflies West Coast, p. 252.

Localities: Ensenada, July 3-5, 1905; Cedros Island, November 10, 1939; Asuncion Bay, November 11, 1939; Santa Maria Bay, November 12, 1939; Cape San Lucas, November 14, 1939; Los Frailes Bay, December 28, 1938; Muertos Bay, March 23, 1939, November 16, 1939; Espíritu Santo Island, March 7, 1928; North end San José Island, December 31, 1938; Angeles Bay, June 26, 1921, July 25, 1921.

HESPERIJNAE

(76) *Copaeodes aurantiaca* (Hewitson)

- Ancyloxypha aurantiaca* HEWITSON, 1868, Deser. Hesp., p. 45.
Copaeodes aurantiaca, GODMAN and SALVIN, 1900, Biol. Centr.-Amer., Rhop., 2:473; SEITZ, 1923, Macrolep., 5:928; COMSTOCK, 1927, Butterflies Calif., p. 216; HOLLAND, 1931, Butterfly Book, rev. ed., p. 368.
Hesperia waco EDWARDS, 1868, Trans. Amer. Ent. Soc., 2:122.
Heteropterus procris EDWARDS, 1871, Trans. Amer. Ent. Soc., 3:215.
Thymelicus macra PLOETZ, 1884, Stett. Ent. Zeitung, 45:284.
Thymelicus singularis PLOETZ, 1884, Stett. Ent. Zeitung, 45:284.
Copaeodes candida WRIGHT, 1890, Proc. Calif. Acad. Sci., (2), 3:34.
Copaeodes nanus WATSON, 1893, Proc. Zool. Soc. London, p. 98.

Localities: Santa Maria Bay, November 12, 1939; Cape San Lucas, March 21, 1939, November 13, 1939, December 24, 1938; El Tule Ranch, March 5, 1928; Los Frailes Bay, December 28, 1938; North end San José Island, December 31, 1938; Puerto Escondido, January 1, 1939; Pulpito Bay, January 2, 1939; San Marte Bay, December 20, 1938; Melege, May 15, 1921.

(77) *Hylephila phylaeus* (Drury)

- Papilio phylaeus* DRURY, 1770, Illustr. Exot. Ent., 1:25.
Hylephila phylaeus, GODMAN and SALVIN, 1900, Biol. Centr.-Amer., Rhop., 2:476; SEITZ, 1923, Macrolep., 5:928; COMSTOCK, 1927, Butterflies Calif., p. 220; HOLLAND, 1931, Butterfly Book, rev. ed., p. 377.
Papilio colon FABRICIUS, 1775, Syst. Ent., p. 531.
Papilio phareus PANZER, 1875, Diurn. Abbild., p. 59.
Phemiaes augias HÜBNER, 1819-1821, Zutr. Samml. Exot. Sehmett., 2:pl. 40.
Hesperia carin HÜBNER, 1823, Zutr. Samml. Exot. Sehmett., 2:10.
Pamphila bucephalus STEPHENS, 1828, Illustr. Brit. Ent., 1:102.
Pamphila hala BUTLER, 1870, Trans. Ent. Soc. London, p. 504.
Hesperia ancora PLOETZ, 1883, Stett. Ent. Zeitung, 44:205.
Thymelicus brettus HOLLAND (*non* Boisduval and LeConte), 1891, Butterfly Book, pl. 47.
Pamphila brettooides WRIGHT (*non* EDWARDS), 1905, Butterflies West Coast, p. 245.

Localities: Ensenada, July 2-5, 1905; Cape San Lucas, March 21, 1939, November 13, 1939, December 25, 1938.

This species has also been taken in the coastal regions of Sonora.

(78) **Polites sabuleti** (Boisduval)

Hesperia sabuleti BOISDUVAL, 1852, Ann. Soc. Ent. Fr., (2), 10:316.

Polites sabuleti, SEITZ, 1923, Macrolep., 5:932; COMSTOCK, 1927, Butterflies Calif., p. 223; HOLLAND, 1931, Butterfly Book, rev. ed. p. 383.

Hesperia genoa PLOETZ, 1883, Stett. Ent. Zeitung, 44:207.

Localities: Ensenada, July 2-5, 1905; Hamilton Ranch, May, 1929 (Henne); Santa Maria Bay, February 23, 1928.

(79) **Poanes melane** (Edwards)

Hesperia melane EDWARDS, 1869, Trans. Amer. Ent. Soc., 2:312.

Atrytone melane, SEITZ, 1924, Macrolep., 5:938.

Poanes melane, COMSTOCK, 1927, Butterflies Calif., p. 225; HOLLAND, 1931, Butterfly Book, rev. ed., p. 391.

Cobalus vitellina HERRICH-SCHAEFFER, 1869, Corresp.-blatt. Regensb., 23:199.

Locality: La Laguna, Sierra Laguna, October 14, 1941.

(80) **Lerodea arabus** (Edwards)

Pamphila arabus EDWARDS, 1882, Pap., 2:26.

Lerodea arabus, SEITZ, 1924, Macrolep., 5:943; HOLLAND, 1931, Butterfly Book, rev. ed., p. 396.

Lerodea dysaules GODMAN and SALVIN, 1900, Biol. Centr.-Amer., Rhop., 2:500.

Localities: Santa Maria Bay, November 12, 1939; Cape San Lucas, November 14, 1939; Pulpito Bay, January 2, 1939.

(81) **Lerodea eufala** (Edwards)

Hesperia eufala EDWARDS, 1869, Trans. Amer. Ent. Soc., 2:311.

Lerodea eufala, GODMAN and SALVIN, 1900, Biol. Centr.-Amer., Rhop., 2:500¹; SEITZ, 1924, Macrolep., 5:941; COMSTOCK, 1927, Butterflies Calif., p. 226; HOLLAND, 1931, Butterfly Book, rev. ed., p. 396.

Pamphila floridæ MABILLE, 1876, Bull. Soc. Ent. Fr., (5), 6:ix.

Carystus micylla BURMEISTER, 1878, Desc. Phys. Rep. Argent., 5:272.

Cobalus dispersus GUNDLACH, 1881, Contrib. Ent. Cubana, 1:154.

Lerodea obscura MABILLE, 1904, Gen. Inst., 17:131.

Pamphila nereus WRIGHT (*non* Edwards), 1905, Butterflies West Coast, p. 248.

Locality: Cape San Lucas, March 22, 1939, November 13, 1939, December 24, 1938.

This species has been reported from Guaymas on the mainland¹.

(82) **Stomyles tolteca** (Scudder)

Amblyscirtes tolteca SCUDDER, 1872, Rep. Peabody Acad. Sci., 4:76.

Stomyles tolteca, SEITZ, 1924, Macrolep., 5:943.

Locality: Cape Sân Lucas, November 13, 1939.

(83) **Panoquina errans** (Skinner)

Pamphila errans SKINNER, 1892, Ent. News, 3:174.

Prenes errans, SEITZ, 1924, Macrolep., 5:949; COMSTOCK, 1927, Butterflies Calif., p. 227; HOLLAND, 1931, Butterfly Book, rev. ed., p. 398.

Pamphila nereus WRIGHT (*non* Edwards), 1905, Butterflies West Coast, p. 248.

Localities: Santa Maria Bay, February 23, 1928; Cape San Lucas, March 19, 1928, December 25, 1938; Muertos Bay, December 29, 1938; San José Island, May 29, 1921 (Amortajada Bay), December 31, 1939 (north end of island); Las Animas Bay, May 28, 1921.

Specimens have been taken north of Guaymas on the Sonoran coast.

(84) **Vorates decorus** (Herrich-Schaeffer)

Cobalus decorus HERRICH-SCHAEFFER, 1869, Prodr. Syst. Lep., 3:81.

Vorates decorus, SEITZ, 1924, Macrolep., 5:976.

Locality: Santa Maria Bay, November 12, 1939.

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